

(12) UK Patent Application (19) GB (11) 2 273 558 (13) A

(43) Date of A Publication 22.06.1994

(21) Application No 9226326.8

(22) Date of Filing 17.12.1992

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(51) INT CL⁵
F24C 3/00, A61L 9/015

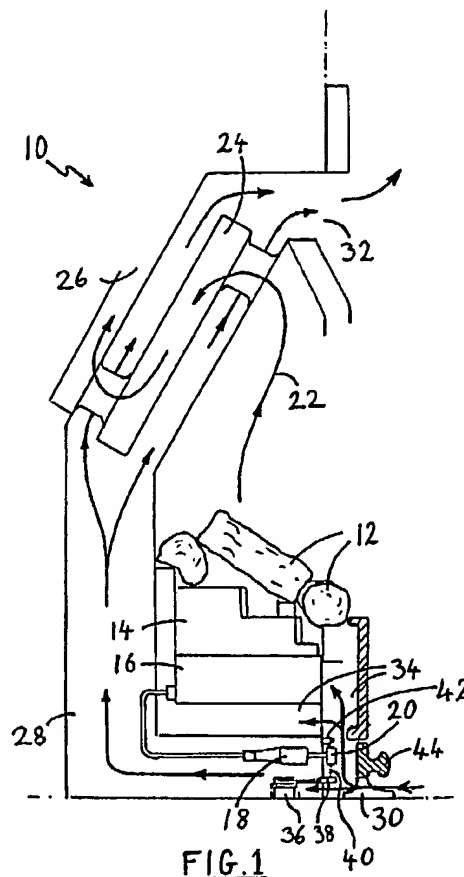
(52) UK CL (Edition M)
F4W W1
A5G GV

(56) Documents Cited
GB 2180056 A GB 0433433 A GB 0409342 A
GB 0314141 A

(58) Field of Search
UK CL (Edition L) A5G GV , F4S S35B S35U , F4W W1
INT CL⁵ A61L , F24C
ONLINE DATABASE; WPI

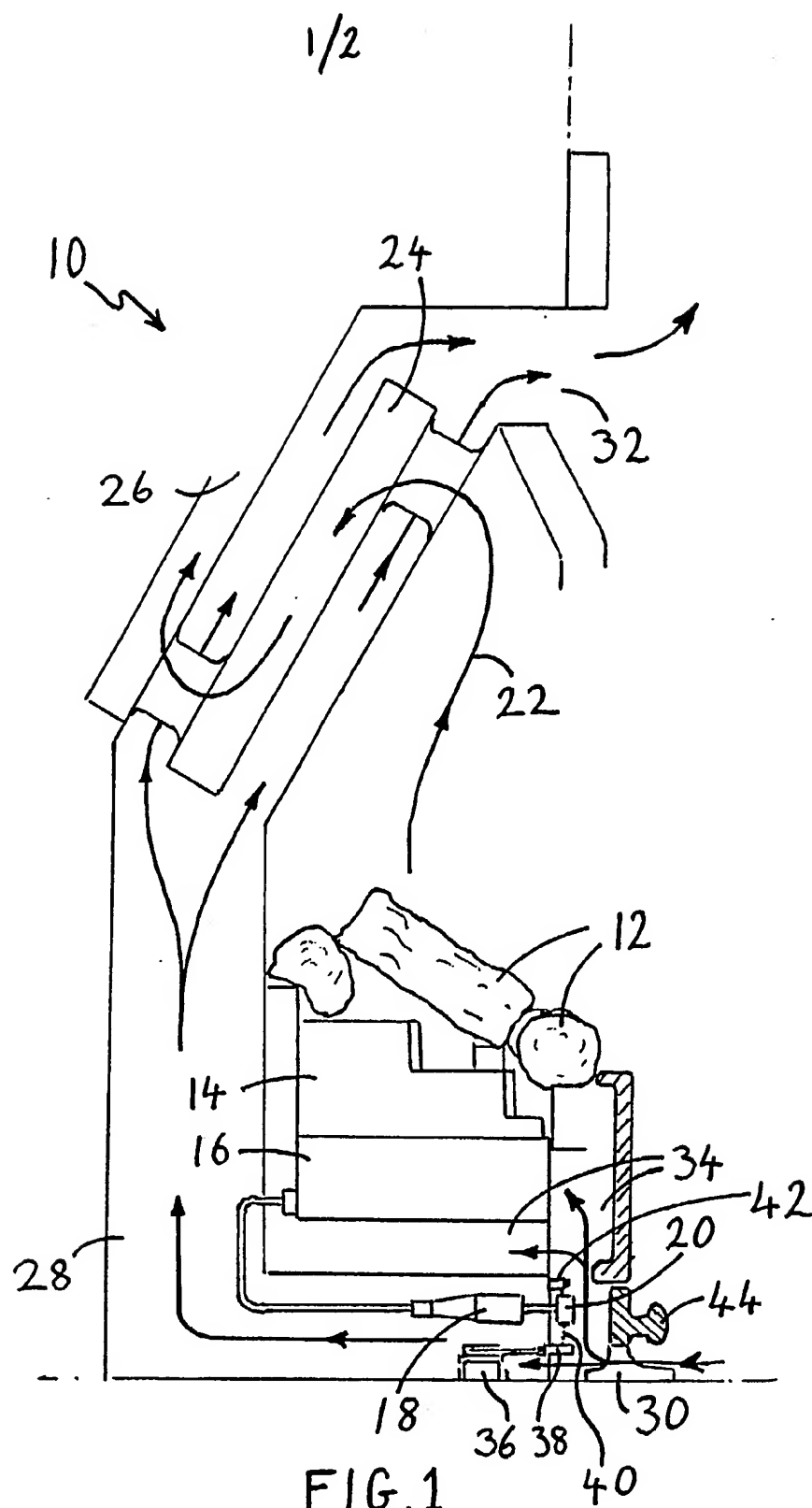
(54) Simulated solid fuel effect gas fire with fragrance supply means

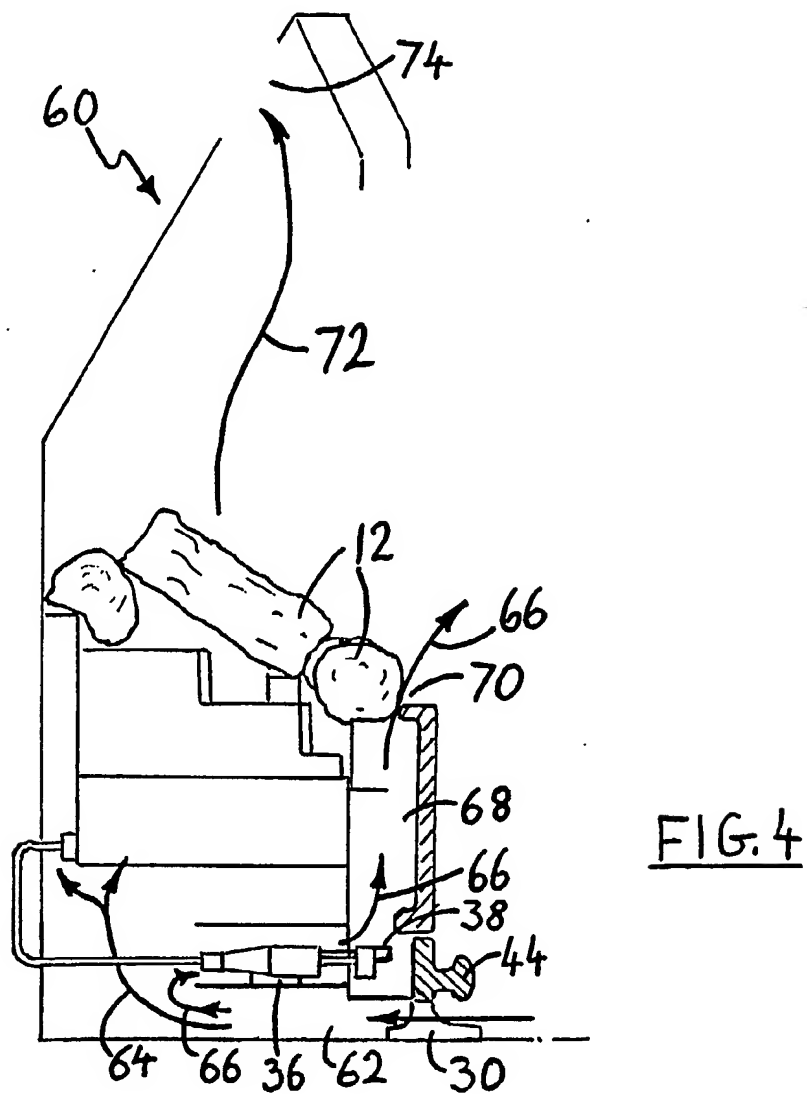
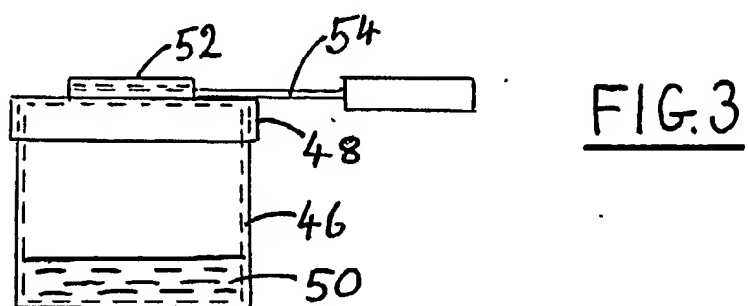
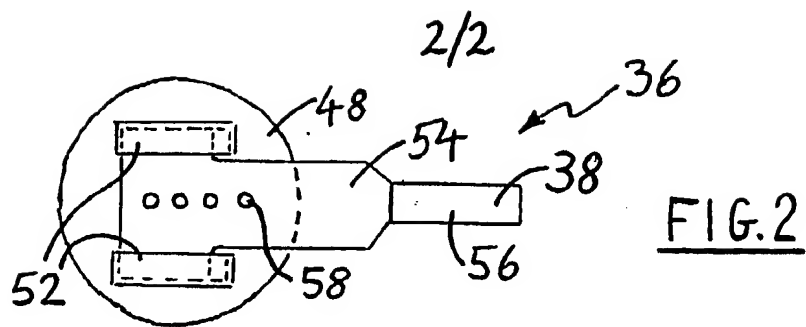
(57) A simulated solid fuel effect gas fire 10 is provided with fragrance supply means 36, preferably supplying fragrance to a convected air path substantially (66, figure 4) completely 28 separate from a flue/combustion gas path 22, (72). Various means 38, 40 may be provided for manual and/or automatic initiation and/or termination of release of fragrance. The fragrance will preferably resemble burning wood but may be some other fragrance e.g. roses. In the preferred embodiment the supply means comprises a jar having a cap (48, figure 2) on which slides a control member (54) having apertures (58) which can register with corresponding apertures in the cap to allow release of the fragrance held in the jar.



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At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.





SIMULATED SOLID FUEL EFFECT GAS FIRESFIELD OF INVENTION

This invention relates to simulated solid fuel effect gas fires.

5 BACKGROUND

In an attempt to make such fires more realistic, there have been proposals to supply such a fire with a fragrance resembling, for example, burning logs, e.g. in the form of pellets of fragrance material which are thrown onto the
10 simulated solid fuel elements when glowing hot so that the required fragrance is given off by the fire. This is rather crude and inefficient, and has therefore not been successful.

THE INVENTION

15 According to one aspect of the present invention, there is provided a fire as claimed in claim 1. This has the advantage that a suitable fragrance material (solid, or more usually liquid) can be included in a self-contained fire, with the concomitant advantages of convenience and
20 ease of use. As appreciated by the present inventor, with a fire as claimed in any one of claims 2 to 5, the efficiency can be greatly improved since the majority of supplied fragrance does not immediately disappear up the flue, as was the case, for example, with the attempts to
25 throw a fragrance pellet onto glowing simulated solid fuel elements of a so-called "decorative" gas fire.

The invention can be embodied in a fire as claimed in claim 4, e.g. a "decorative" gas fire, in which the flue

gases exit directly to the flue and the majority of heat that transfers to the room does so by radiation, there being little spillage of combustion gases into the room. Such a fire has the advantage that there is provided a
5 separate convection stream of air to carry the fragrance into the room, regardless of, and separate from, the combustion gases going to the flue. The efficiency of such an arrangement in transferring fragrance into the room is thereby greatly enhanced.

10 In a fire as claimed in claim 5, advantage can be taken of the already existing separate flow of convected gas which obtains its heat through a heat exchanger from the flue gases, to transmit the fragrance into the room in a particularly economical manner.

15 With either kind of fire, the fragrance supply means may be manually operable to release fragrance (which term "to release fragrance" includes "to release a metered quantity of fragrance" and "to start a continuing release of fragrance" as the case will allow), which has the
20 advantage of allowing full control by the person operating the fire. The fire may comprise means to operate said supply means in functional relationship to switching on a gas supply to the fire, e.g. said operating means comprising an operative connection of said supply means to
25 a gas tap for said supply, with the advantage of being able to start the release of fragrance somewhat earlier than the flame is actually ignited. Again, the supply means can be operatively connected to e.g. a piezo-electric starter

member operable to ignite the gas, which has the advantage that the fragrance is only released at the time when the flame is actually ignited. Yet again, the supply means can have an operative connection to a heat-responsive element
5 arranged to detect when the fire is alight, e.g. a thermistor or a mechanical such device, e.g. a bimetallic strip, which will further delay operation of the supply means until the temperature has risen to a pre-determined level at a chosen point in or near the fire. The
10 bimetallic strip may serve directly as a closure for the supply means, which opens the latter upon temperature reaching a pre-set or otherwise desired level. Alternatively, a solenoid valve may be used to open the supply means to release the fragrance. It is also possible
15 to have a heat sensor for this purpose located at a remote point, e.g. at the opposite side of the room containing the fire, so as to operate the supply means only at the required temperature being reached at that place.

Again, for both kinds of fire, a particularly simple
20 and efficient arrangement can be obtained by locating the supply means, or at least a fragrance release part thereof, towards the front of the fire and at a level below the simulated solid fuel elements thereof.

DESCRIPTION OF THE EMBODIMENTS

25 Reference will now be made by way of example to the accompanying drawings, in which:-

Figure 1 is a diagrammatic, vertical, side cross-sectional view of a simulated solid fuel effect gas fire

embodying the invention and having a heat exchanger and a separate convected air system;

Figure 2 is a plan view of a fragrance supply means, e.g. for use in the Figure 1 embodiment;

5 Figure 3 is a side elevation of the Figure 2 supply means; and

Figure 4 is a view corresponding to Figure 1 of a decorative effect gas fire of a kind without a heat exchanger.

10 Referring to the drawings, and particularly Figure 1, a gas fire 10 has simulated solid fuel elements 12 in the form of a log fuel bed resting on spacers 14 on a burner 16 supplied with gas from a supply 18 under the control of a gas tap 20. The combustion gases follow a flue path 22
15 through a heat exchanger 24, exiting to a flue 26. A convected air passage 28 receives air through an inlet means 30 and this convected air is heated in passing through heat exchanger 24 and eventually exits through an outlet 32 to the room. Some air entering through inlet 30
20 passes along passages 34 to form primary and secondary air supplies for the combustion. Fragrance supply means 36 is located in convected air passage 28 towards the front of the fire and below the level of the elements 12. A control member 38 for operating supply means 36 may be manually
25 operable or, as indicated by a dotted line in Figure 1, connected by an operative connection 40 to gas tap 20 or to a piezo-electric starter 42 arranged to ignite the gas to start the combustion or a heat-sensitive device 42, as

appropriate. A cover 44 is removable to allow access to the various control elements or members 20, 38, 42. In different embodiments, various means may be provided for manual and/or automatic initiation and/or termination of
5 release of fragrance.

As shown in Figures 2 and 3, supply means 36 comprises a circular glass jar 46, the top of which threadedly engages a cap 48 to effect a seal therewith and contains fragrance source material 50, which may for example provide
10 a wood-burning fragrance such as oak, ash, pine, cherry, apple etc., but could also provide such fragrances as a floral scent, e.g. roses. Cap 48 is provided with a pair of guides 52 in which slide a control member 54, reciprocable by means of a handle 56 and having apertures
15 58 which register with corresponding apertures in cap 48 in one position of member 54 to release fragrance, and in the opposite position of member 54 are out of register with the corresponding holes in cap 48 so as to seal the supply means 36.

20 As illustrated in Figure 4, a decorative fuel effect fire 60 has many parts similar to the fire 10 but no heat exchanger corresponding to 24 nor any independent convected air passage corresponding to 28 and obtaining heat by means of a heat exchanger. Air through inlet 30 flows along a
25 passage 62 and then splits into one stream 64 which supplies primary and secondary air for combustion and another stream 66 which passes fragrance supply means 36 and is convected through a passage 68 to escape at outlet

70 to carry the fragrance into the room. As can be seen from Figure 4, this gas path 66 is substantially separate from the flue gas path 72 (for the combusted gases) which exits at outlet 74 to the flue. Again, supply means 36 is
5 located towards the front of the fire and below the level of the simulated solid fuel elements 12, so that it is readily accessible through cover 44 and the container 46 can thereby be easily removed from cap 48 so that the user can reload it with the fragrance essence 50 whenever
10 required. Also, it can usefully be made of glass so that it can easily be cleaned from one fragrance if required subsequently to contain another fragrance. The apertures 58 are typically 2mm in diameter, as also their co-operating apertures in cap 48, although any of said
15 apertures can be suitably shaped to facilitate releasing fragrance at different rates according to the position of control member 54 (instead of this simply being able to be moved from an open to a closed position and vice versa).

Control means can be provided to enable the supply
20 means to terminate release of fragrance at any desired time, e.g. by use of a manual override. Such a feature is implicit in the manual control means 38 mentioned above.

It will be apparent to one skilled in the art that any features of any embodiments may be suitably combined or
25 omitted, in various combinations, as appropriate, whether these are features described with reference to the drawings or described in the earlier part of this specification. Any new and unobvious combination of the aforesaid features

may be considered to be an example within the scope of the appended claims.

CLAIMS

1. A simulated solid fuel effect gas fire, characterised in that it comprises fragrance supply means for storing a fragrance source material and supplying fragrance from said material when required.
2. A simulated solid fuel effect gas fire, characterised in that it comprises fragrance supply means arranged to release a fragrance to exit from the fire substantially separate from the combustion and flue gases.
3. A simulated solid fuel effect gas fire, characterised in that it comprises a path for convected air heated by the fire, at least a portion of said path being substantially separate from the combustion and flue gases to a point where said path leaves the fire, and fragrance supply means arranged to release a fragrance into said portion.
4. A fire as claimed in any one of claims 1 to 3, characterised in that it comprises a path for convected air heated by the fire, said path being substantially separate from the combustion and flue gases, said supply means being arranged to release said fragrance into said separate path.
5. A fire as claimed in any one of claims 1 to 3, characterised in that it comprises a convected air system separate from the combustion and flue gases, and heat exchanger means to exchange heat between said system and the combustion and/or flue gases, and said supply means are arranged to release said fragrance into said convected air system.

6. A fire as claimed in any one of claims 1 to 5,
characterised in that said supply means or at least a
fragrance release part thereof is arranged towards the
front of the fire and at a level below the simulated solid
5 fuel elements thereof.

7. A fire as claimed in any one of claims 1 to 6,
characterised in that it comprises means for manually
operating said supply means to release said fragrance.

8. A fire as claimed in any one of claims 1 to 6,
10 characterised in that it comprises means to operate said
supply means in functional relationship to switching on a
gas supply to the fire.

9. A fire as claimed in claim 8, characterised in that
said operating means comprises an operative connection of
15 said supply means to a gas tap for said supply.

10. A fire as claimed in any one of claims 1 to 6,
characterised in that it comprises a member operable to
ignite the gas and said supply means comprises an operative
connection to said member.

20 11. A fire as claimed in any one of claims 1 to 6,
characterised in that it comprises a heat-responsive
element arranged to detect when the fire is alight and said
supply means comprises an operative connection to said
element.

25 12. A simulated solid fuel effect gas fire, substantially
according to any example hereinbefore described.

13. A simulated solid fuel effect gas fire, substantially according to any example hereinbefore described with reference to and illustrated in the accompanying drawings.

- 11 -

Patents Act 1977
Examiner's report to the Comptroller under
Section 17 (The Search Report)

Application number

GB 9226326.8

Relevant Technical fields

(i) UK CI (Edition L) F4S (S35B, S35U); F4W (WI);
A5G (GV)

(ii) Int CI (Edition 5) F24C; A61L

Search Examiner

T M JAMES

Databases (see over)

(i) UK Patent Office

(ii) ONLINE DATABASES: WPI

Date of Search

31 MARCH 1993

Documents considered relevant following a search in respect of claims 1-13

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
X Y	GB 2180056 A (RABY) - see whole document	X: 1,2,7, 8 Y: 3-6
Y	GB 0433433 (HOLE) - see page 2 lines 18-27	3-5
Y	GB 0409342 (DURRANT) - see Figure 2	3-6
X Y	GB 0314141 (MILLER) - see page 2, lines 9-15	X: 1,2 Y: 3-6

SF2(p)

ms - doc99\fil001361

Category	Identity of document and relevant passages -12-	Relevant claim(s)

Categories of documents

X: Document indicating lack of novelty or of inventive step.

Y: Document indicating lack of inventive step if combined with one or more other documents of the same category.

A: Document indicating technological background and/or state of the art.

P: Document published on or after the declared priority date but before the filing date of the present application.

E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.

&: Member of the same patent family, corresponding document.

Databases: The UK Patent Office database comprises classified collections of GB, EP, WO and US patent specifications as outlined periodically in the Official Journal (Patents). The on-line databases considered for search are also listed periodically in the Official Journal (Patents).